

## INTRODUCTION TO GEOSPATIAL STATISTICAL ANALYSIS AND MODELLING

The objective of this half-day workshop is to introduce you to basic methods for geospatial statistical analysis and modelling. The methods discussed are based on the two aspects of spatial statistical analysis and modelling: *spatial data exploration*, and *spatial data modelling*.

On *spatial data exploration*, we will look at the different measures of spatial proximity, global and local measures of spatial association or spatial autocorrelation (e.g. the Moran's index), and spatial smoothing or spatial filtering.

*Spatial data modelling* seeks to associate a primary attribute of interest with other attributes, also termed covariates or explanatory variables. Of critical importance is the consideration of spatial autocorrelation in such models. Here, we will focus on spatial regression models such as the spatial autoregressive (SAR) and conditional autoregressive (CAR) models. Real datasets will be applied to demonstrate the methods using either the R or Geoda software. A minimum of five participants is required.